

### **REMARKS**

This responds to the Office Action mailed on September 10, 2008.

Claims 1, 5, 12, 17, 21, 25, 28 and 31 are amended, claims 2, 3, 7, 13, 14, 18, 24, 27 and 33 are canceled; as a result, claims 1, 4-6, 8-10, 12, 15-17, 19, 21-23, 25-26, and 28-32 are now pending in this application.

#### **§103 Rejection of the Claims**

The final office action reject claims 1, 4-6, 8-10, 12, 15-17, 19, 21-23, 25-26, and 28-32 under 35 U.S.C. § 103(a) over Davidson et al (US Patent 6,246,345) and Hu et al (US Patent 6,745,162). Applicants respectfully traverse this rejection. For reasons explained below, the claims in question are patentable.

In column 5, lines 38-50 Davidson describes “step 54 determines whether the total of the required allocations differs significantly from the total number of bits that are available for quantization” and “the process returns to step 53 and reiterates this process until step 54 determines that the total allocation required to obtain the proposed quantization step sizes is sufficiently close to the total number of available bits”.

Hu describes at step 417 that the DELTA.SMR is calculates for each sub-band. This value compares the difference in SMR for a sub-band as compared to the SMR value for that sub-band in a prior iteration of the loop.

In contrast amended independent claims 1, 5, 12, 17, 21, 25, 28 and 31 recite “local gain of the scale band factor are estimated as a function of band **energy ratios** and **SMRs**” and **not** based on the difference between of SMR value (i.e. DELTA.SMR) of the current and the previous sub-bands. Support for this can be found in Figure 1, and page 4, lines 25-30 and page 5, lines 1-10 of the specification. Also, amended independent claims 1, 5, 12, 17, 21, 25, 28 and 31 recite “shaping the quantization noise in each scale band factor such that a difference between SMR and SNR in each scale band factor is substantially constant”. Support for this can be found Page 5 line 4-6, page 6 line 28-30

Davidson and Hu references **fail** to teach or suggest “shaping quantization noise in spectral lines in each scale band factor using local gain, wherein the local gain of the scale band

factor are estimated as a function of **band energy ratios** and **SMRs**", as recited in amended independent claim 1, 5, 12, 17, 21, 25, 28 and 31.

Claims 4, 6, 8-10, 15-16, 19, 22-23, 26, 28-30 and 32 depend directly or indirectly from the amended independent claims 1, 5, 12, 17, 21, 25, 28 and 31, so they should be allowable for the reasons presented above.

Applicants respectfully assert that Davidson and Hu references fail to support a *prima facie* case of obviousness because as mentioned above, the cited references in combination fail to teach or suggest all of the elements of the Applicants' invention, such as shaping quantization noise in spectral lines in each scale band factor using local gain, wherein the local gain of the scale band factor are estimated as a function of **band energy ratios** and **SMRs**.

For the above reasons, claims 1, 4-6, 8-10, 12, 15-17, 19, 21-23, 25-26, and 28-32 should be allowable over Davidson and Hu references and Applicants request that the rejection be withdrawn.

*Allowable Subject Matter*

Claims 11 and 20 were allowed.

**RESPONSE**

Serial Number: 10/671,324

Filing Date: September 25, 2003

Title: SYSTEM, METHOD, AND APPARATUS FOR FAST QUANTIZATION IN PERCEPTUAL AUDIO CODERS

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**CONCLUSION**

Applicants respectfully submit that the claims 1, 4-6, 8-10, 12, 15-17, 19, 21-23, 25-26, and 28-32 are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicants' attorney to facilitate prosecution of this application.

Respectfully submitted,

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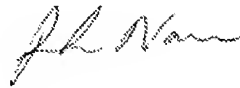
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